

REMARKS

Claims 4 - 8, 10 - 19, 24 - 28, and 30 - 31 are pending. Claims 1 - 3, 9, 20 - 23, and 29 have been cancelled. Claims 30 and 31 have been added. Claims 4 - 8, 10 - 14, 17, 19, and 24 - 28 have been amended. Reexamination and reconsideration of this application are respectfully requested.

In the January 26, 2005 Office Action, the Examiner rejected claims 1, 6, and 10 under 35 U.S.C. § 112, second paragraph for lack of antecedent basis. The applicants have amended claims 1, 6, and 10 to provide sufficient antecedent basis and respectfully request that the rejection of claim 1, 6, and 10 under 35 U.S.C. be withdrawn.

In the January 26, 2005 Office Action, the Examiner rejected claims 1 - 29 under 35 U.S.C. § 102(b) as being anticipated by Manghirmalani et al. ("Manghirmalani"). This rejection is respectfully traversed in so far as it is applicable to the presently pending claims.

Independent claim 4, as amended, recites:

A method for a distributed agent, comprising:
generating a heartbeat signal containing content specified by a pre-determined configuration; and
transmitting the heartbeat signal according to an internal timing of the distributed agent, without being polled by a network health monitoring system.

The Manghirmalani reference does not disclose the method for a distributed agent of claim 4, as amended. The Examiner states that col. 5, lines 39 - 50 and col. 7, lines 52 - 55, disclose the transmitting of a heartbeat signal according to a timing. (*Office Action, page 4*). The applicants respectfully disagree. Specifically, the

Manghirmalani reference discloses that a pre-configured software program (agent) collects data about the health of devices within a computer network. This collected data is stored in a local register. The network management station initiates the data gathering process by sending queries to agents located within each concentrator. The network management software periodically requests these agents to send the contents of the local registers. The agents send the requested data to the to the network management station. Specifically, the Manghirmalani reference is disclosing utilizing polling. (*Manghirmalani*, col. 5, lines 39 - 50, col. 6, lines 7 - 8). In col. 7, lines 52- 55, Manghirmalani discloses that a collision rate (number of collisions divided by the number of good packets) over a constant time period. This time period is disclosed as 60 seconds or, for example, 5 seconds. This time period does not correspond to the transmitting of information, it is only a time period over which the collision rate is measured.

This is not the same as **transmitting the signal according to an internal timing of the distributed agent, without being polled by the network health monitoring system**, as is recited in claim 4, because the Manghirmalani reference agents only provide information if they are polled. There is no established timeframe, i.e., internal timing of the distributed agent, at which the heartbeat signal is transmitted. In other words, the agents in Manghirmalani are not acting independently in transmitting the heartbeat (because they are being polled). Plus, the Manghirmalani agents are transmitting information only if they are polled and this does not meet the limitation of **“transmitting ... without being polled by the health monitoring system.”** Accordingly, claim 4, as amended, distinguishes over the Manghirmalani

reference.

Independent claim 24, as amended, recites limitations similar to independent claim 4, as amended. Accordingly, independent claim 24 distinguishes over the Manghirmalani reference for reasons similar to those discussed above in regard to claim 4, as amended.

Claims 5 and 25 depend directly on claims 4 and 24, respectively. Accordingly, claims 5 and 25 distinguish over the Manghirmalani reference for the same reasons as those discussed above in regard to independent claim 4, as amended.

Claim 5, as amended, further distinguishes over the Manghirmalani reference.

The method according to claim 4, further including performing the following before generating the heartbeat signal:
establishing the pre-determined configuration; and
setting up a timer that controls the timing of the transmitting.

The Manghirmalani reference does not teach, disclose, or suggest the method of claim 5, as amended. The Manghirmalani reference discloses only that a collision rate is determined over a specific time period, e.g., 5 seconds or 60 seconds, (*Col. 7, lines 25 - 55*) and does not disclose that a timer is established to control the timing of the transmitting. Because the Manghirmalani reference discloses that the agents respond to the network management station's Network Management Software polling, there is no timer within the agent. Accordingly, claim 5, as amended, further distinguishes over the Manghirmalani reference.

Dependent claim 25 recites limitations similar to claim 5. Accordingly, claim 25 further distinguishes over the Manghirmalani reference for reasons similar to those discussed above in regard to claim 5.

New Independent claim 30 distinguishes over the Manghirmalani reference.

Claim 30 recites:

A method for a distributed agent, comprising:
generating a heartbeat signal containing content specified by a pre-determined configuration; and
independently transmitting the heartbeat signal on an irregular periodic basis, the irregular period basis being 1) transmitting according to a first timing when network traffic is heavy or 2) transmitting according to a second timing when network traffic is not heavy.

The Manghirmalani reference does not disclose, teach, or suggest the method of claim 30. As discussed above, the Manghirmalani reference discloses that a network management station polls agents in a network and the agents respond to the polling of the network management station. Thus, the Manghirmalani reference is not disclosing that the distributed agent **independently transmits the heartbeat signal**. Further, the Manghirmalani reference does not disclose that the distributed agent transmits a heartbeat signal on an **irregular periodic basis where the timing of the transmitting of the timing is based on whether the network traffic is heavy or not heavy**. The Manghirmalani reference discloses only that the network management software of the network management station periodically polls the agent. Accordingly, claim 30 distinguishes over the Manghirmalani reference.

Independent claim 31 recites limitations similar to independent claim 30. Accordingly, independent claim 31 distinguishes over the Manghirmalani reference for reasons similar to those discussed above in regard to claim 30.

Independent claim 6, as amended, distinguishes over the Manghirmalani reference. Independent claim 6, as amended, recites:

A method for monitoring network health, comprising:
receiving a heartbeat signal from a distributed agent located in a segment of a network;

determining the health of the segment of the network based on a deviation of the heartbeat signal from a baseline pattern;
logging the health of the segment into a recorded health history;
and
estimating a future time at which the health of the segment becomes unacceptable based on a trend detected from the recorded health history.

The Manghirmalani reference does not disclose, teach, or suggest the method of claim 6, as amended. The Manghirmalani reference does not disclose a method for monitoring network health including **estimating a future time at which the health the segment becomes unacceptable based on a trend detected from the recorded health history.** The Manghirmalani reference is directed to providing the health of the overall system and also the health of an overall device. (*Col. 7, lines 56 - 60*). The Manghirmalani reference discloses that historical data concerning the network can be factored in when calculating the health of the network. This data can lead to more accurate and dynamic values. (*Col. 10, lines 33 - 41*). The Manghirmalani reference discloses that customer network knowledge supplied by the end user, historical data, and current data are inputted into a health algorithm. The current data is stored as historical data so that it can be used for future calculations. Based on the various parameters concerning the LAN, the clients and any servers on the network, the health algorithm generates and outputs a health score for the LAN and displays this on the health meter. (*Col. 11, lines 53 - 63*). There is no disclosure that the health algorithm utilizes stored health information (i.e., the recorded health information) **in order to estimate when the health of the segment becomes unacceptable.** There is no disclosure that the health algorithm predicts any occurrence. Accordingly, claim 6, as amended, distinguishes over the Manghirmalani reference.

Independent claim 10, 17, and 26, all as amended, recite limitations similar to claim 6, as amended. Accordingly, applicants respectfully submit that independent claims 10, 17, and 26 distinguish over the Manghirmalani reference for reasons similar to those discussed above in regard to independent claim 6, as amended.

Claims 7, 11 - 14, 18, and 27 depend, indirectly or directly, from independent claims 6, 10, 17, and 26. Accordingly, applicants respectfully submit that claim 7, 11 - 14, 18, and 27 distinguish over the Manghirmalani reference for the same reasons as those discussed above in regard to independent claim 6, as amended.

Claim 8, as amended, distinguishes over the Manghirmalani reference. Claim 8, as amended, recites:

A method for monitoring network health, comprising:
receiving a heartbeat signal from a distributed agent located in a segment of a network;
identifying the segment of the network based on received heartbeat signal;
extracting content from the heartbeat signal;
retrieving a baseline pattern;
analyzing the deviation between the heartbeat signal and the baseline pattern;
verifying the health of the segment of the network based on the deviation;
reporting the health of the segment of the network based on the result from the verifying; and
updating the baseline pattern by incorporating the content of the heartbeat signal if the network health is good.

The Manghirmalani reference does not disclose, teach, or suggest the method of claim 8, as amended. The Examiner states that col. 8, lines 9 - 15 of the Manghirmalani reference discloses the "updating the baseline pattern based on the deviation limitation." Applicants respectfully disagree. The Manghirmalani reference discloses that inputs from an auto baseline can be used in calculating the health. Further,

if the current data significantly differs from the baseline by the auto baselining algorithm, additional points can be detected (deducted) from the health score. The Manghirmalani reference also discloses that the status of any bridges, routers, and servers can be factored into the health calculations. (Col. 8, lines 9 - 15).

This is not the same as a method for monitoring network health including **updating the baseline pattern by incorporating the content of the heartbeat signal if the network health is good**. It is not the same because the Manghirmalani reference discloses only that if there is deviations between the current data and the baseline data, then the health score can be decreased. There is no disclosure of **updating the baseline pattern with the heartbeat signal content**. Accordingly, claim 8, as amended, distinguishes over the Manghirmalani reference.

Independent claims 19 and 28, both as amended, recite limitations similar to independent claim 8, as amended. Accordingly, applicants respectfully submit that independent claim 19 and 28 distinguish over the Manghirmalani reference for reasons similar to those discussed above in regard to independent claim 8, as amended.

Independent claim 15 distinguishes over the Manghirmalani reference. Claim 15 recites:

A system for an agent, comprising:
a heartbeat signal generator for generating a heartbeat signal containing content specified by a pre-determined configuration;
a timer for controlling the timing of transmitting the heartbeat signal; and
a heartbeat transmitter for transmitting the heartbeat signal according to the timing specified by the timer.

As discussed above in regard to claim 5, the Manghirmalani reference does not disclose a timer within the system housing the agent. Instead, the Manghirmalani

reference discloses that the network management station controls the timing of the retrieving of data because the network management station polls the agents in the network. Thus, the Manghirmalani reference does not disclose a system for an agent **including a timer for controlling the transmitting** because a timer is not needed in the Manghirmalani reference. Since there is no timer, it is impossible for the Manghirmalani network management station to transmit **the heartbeat signal according to the timing specified by the timer**. Accordingly, claim 15 distinguishes over the Manghirmalani reference.

Claim 16 depends from claim 15. Accordingly, claim 16 distinguishes over the Manghirmalani reference for the same reasons as discussed above in regard to claim 15.

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Applicants believe that the foregoing amendments place the application in condition for allowance, and a favorable action is respectfully requested. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles telephone number (213) 488-7100 to discuss the steps necessary for placing the application in condition for allowance should the Examiner believe that such a telephone conference would advance prosecution of the application.

Respectfully submitted,

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